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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,880	06/28/2006	Hirokazu Kanekiyo	60303.60/ok	1683
54070 7590 12/21/2009 HITACHI METALS, LTD. C/O KEATING & BENNETT, LLP 1800 Alexander Bell Drive SUITE 200 Reston, VA 20191				
EXAMINER SHEEHAN, JOHN P				
ART UNIT 1793		PAPER NUMBER		
NOTIFICATION DATE 12/21/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/596,880

Applicant(s)

KANEKIYO ET AL.

Examiner

John P. Sheehan

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) 6-9, 13 and 14 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 9-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ ~~Notice of Informal Patent Application~~
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I claims 1 to 5 and 9 to 12 in the reply filed on September 3, 2009 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The substitute specification filed June 28, 2007 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: there is no statement that the substitute specification includes no new matter as required by 37 CFR 1.125(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 to 5 and 9 to 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. In claim 1, lines 3 and 4; and claim 10, lines 3 and 4, the meaning of the language, "T is either Fe alone or a transition metal element in which Fe is partially replaced by at least one element from the group consisting of Co and Ni" (emphasis added by the Examiner) is not clear. It is not clear what the phrase, "or a transition metal element in which Fe is partially replaced" encompasses.

II. Claim 1, lines 16, 19 and 21; claim 2, line 2; claim 3, , 3, 5, and 7 are indefinite in view of the use of the word "type", MPEP 2173.05(b) (under heading, (e) Type).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 to 5 and 9 to 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanekiyo et al. (Kanekiyo '124, US Patent No. 6,706,124, cited in the IDS submitted June 28, 2006).

Kanekiyo '124 teaches a iron based rare earth magnet having a composition that overlaps the alloy composition recited in the instant claims (column 2, lines 55 to 65), wherein the hard magnetic phase ($R_2Fe_{14}B$ phase) has a size of greater than 10 nm and equal or less than 200 nm and α -Fe has an average size of 1 to less than 100 nm

(column 2, line 66 to column 3, line 2). These size ranges of the $R_2Fe_{14}B$ phase and the α -Fe phase taught by Kanekiyo '124 overlap the ranges recited in applicants' claims 1, 2, 10, 11 and 12 and the size ratio recited in applicants' claim 3. Kanekiyo '124 teaches that the disclosed iron based rare earth alloy can be use to make bonded magnets as recited in applicants' claims 9 (column 3, lines 38 to 41). Kanekiyo '124 teaches that the disclosed iron based rare earth alloy possesses a coercivity of 480 kA/m or more and a magnetic remanence of 0.85 or more which overlaps the coercivity and magnetic remanence recited in applicants' claims (column 2, lines 48 to 52 and Table 6, Examples 21, 22 and 24). As shown in the table below Kanekiyo '124 also teaches applicants' disclosed method of making applicants' claimed iron based rare earth alloy.

	Applicants' Disclosed Method	Kanekiyo '124 Disclosed Method
Cooling Rate	1×10^4 to 1×10^6 °C/S preferably 1×10^4 to 1×10^5 °C/S (page 27, paragraph [0027])	1×10^2 to 1×10^8 °C/S preferably 1×10^4 to 1×10^6 °C/S (column 15, lines 49 to 52)
Cooling Wheel Speed	10 m/s to 30 m/s (page 29, paragraph [0061])	10 m/s to 30 m/s (column 16, lines 6 and 7)
Heat Treatment Heating Rate	5°C/s to 20°C/s (page 30, paragraph [0062])	5°C/s to 20°C/s (column 16, lines 40 to 45)
Heat Treatment Temperature	550°C to 850°C (page 39, paragraph [0062])	550°C to 850°C (column 16, lines 40 to 45)
Heat Treatment Time	30 seconds to 20 minutes (page 30, paragraph [0062])	30 seconds to 20 minutes (column 16, lines 40 to 45)

The claims and Kanekiyo '124 differ in that Kanekiyo '124 does not teach the exact same alloy proportions as recited in the instant claims and the Kanekiyo '124 is

silent with respect to the thickness of the $R_2Fe_{14}B$ phase thickness as recited in claim 1, line 21 and claim 10, line 28.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the iron based rare earth alloy proportions taught by Kanekiyo '124 overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05(II) A.

Regarding the $R_2Fe_{14}B$ phase thickness, one of ordinary skill in the art at the time the invention was made would have expected the $R_2Fe_{14}B$ phase thickness of Kanekiyo '124's iron based rare earth alloy to be the same as recited in applicants' claims because Kanekiyo '124's iron based rare earth alloy has a composition that overlaps the iron based rare earth alloy recited in the instant claims and is made by a process which is similar to, if not the same as, applicants' process of making the instantly claimed alloy(see the table above). In view of this, the alloy taught by the reference would be

expected to possess all the same properties as recited in the instant claims including the thickness of the $R_2Fe_{14}B$ phase, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." (emphasis added by the Examiner) see MPEP 2112.01.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/
Primary Examiner
Art Unit 1793

JPS